Composite Risk Management

- The need for this idea: where are we getting hurt or killed?
- Culture: now & new
- Obstacles to change
- Moving toward CRM

Combat vs. Accidents

Combat Losses / Accidents

Spanish-American	15% / 85%
WWI	47% / 53%
WWII	43% / 56%
Korea	55% / 44%
Vietnam	45% / 54%
DS/DS	20% / 75%
OEF	45% / 26%
OIF	75% / 21%

Composite Loss

BATTLE5-03a

Worker Losses

- 5,500 occupational fatalities (2003)
- 43,000 vehicular deaths (2003)
- Other accidental deaths (2000)
  - 13,300 from falls
  - 12,750 from poisoning
  - 5,650 from suffocation
  - 3,500 from drowning
- Intentional
  - 29,350 suicides
  - 16,750 homicides

Injuries Needing Medical Treatment

- 23,661,000 in 2002 (out of U.S. population of 278,000,000) – mostly away from work
- Major categories
  - — Falls..... 7,100,000
  - — Transportation..... 3,700,000
  - — Struck by person or object..... 3,700,000
  - — Overexertion..... 3,100,000
  - — Cutting, piercing.....1,700,000
  - — Other.....3,700,000

Injuries Needing Medical Treatment

- When the injuries occur
  - Leisure activities..... 5,500,000
  - Sports..... 3,700,000
  - At work..... 3,600,000
  - Driving..... 2,700,000
  - Home maintenance..... 2,600,000
  - At school..... 800,000
  - Other..... 4,800,000
    (housework, cooking, eating, shopping)

CRM → READINESS

- Dead is dead; injured is injured
- People are unit assets 24/7
- People= Soldiers, civilians, contractors

Culture NOW

- Old safety= regs dictate job, checklists, compliance, limits, what you can't do
- Attention is on the main mission, not on periphery or off duty
- Compartmentalized thinking
- Result: mission accomplished, yet losing people or equipment "unexpectedly"

Current Culture: Example

- When is a Soldier not a Soldier?
  - Soldier finishes big training exercise safely
  - 4 hours sleep, followed by day of errands
  - Unit cook-out @ 1700 (with alcohol), then @ 1930 drive 30 miles to club in town
  - More drinking (8+ beers), 2 sets of buddies
  - Stumbles around bar as buddies watch; leaves bar after curfew
  - Dead within 30 minutes (rollover mishap)

Compartmentalized Thinking

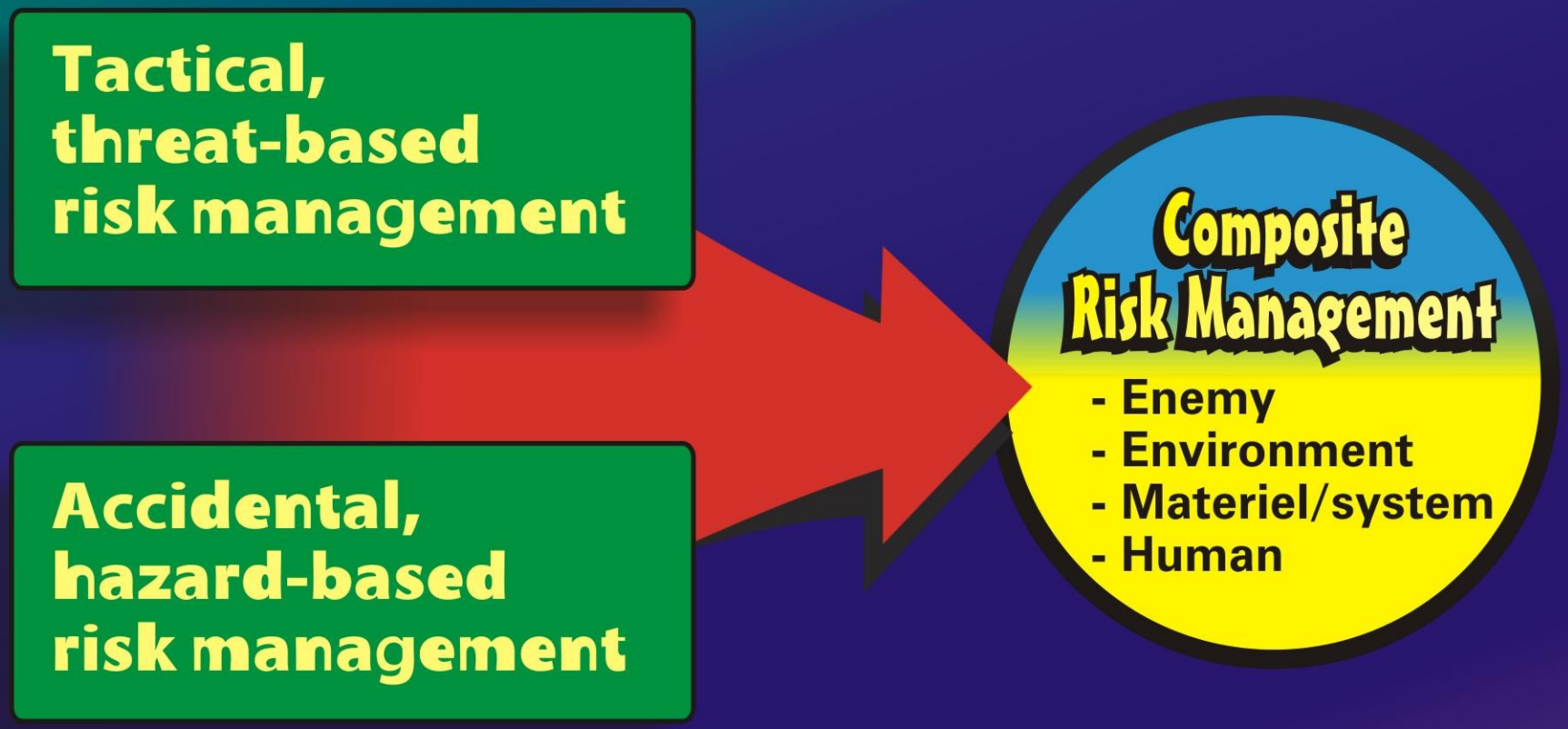
- AR 385-10 functions & responsibilities drive our efforts (not risks)
- Deployed vs. in garrison, tactical vs. accidental, on duty vs. off duty (we are too segmented)

Ignoring The Periphery

- Do our "To Do" lists at home, include any of the following?
  - Chemicals: solvents, cleaners, combustibles
  - Brute force & sharp edges: knives, saws, scissors, drills, hammers; spring-loaded things
  - Heat: stoves, irons, fireplaces, grills
  - Weight or height: lifting, moving, climbing
  - Electricity: light fixtures, plugs, switches, cords
  - High velocity projectiles: mowing, weed whacking
  - Moving steel vs. flesh: parking lots, intersections, two-lane roads

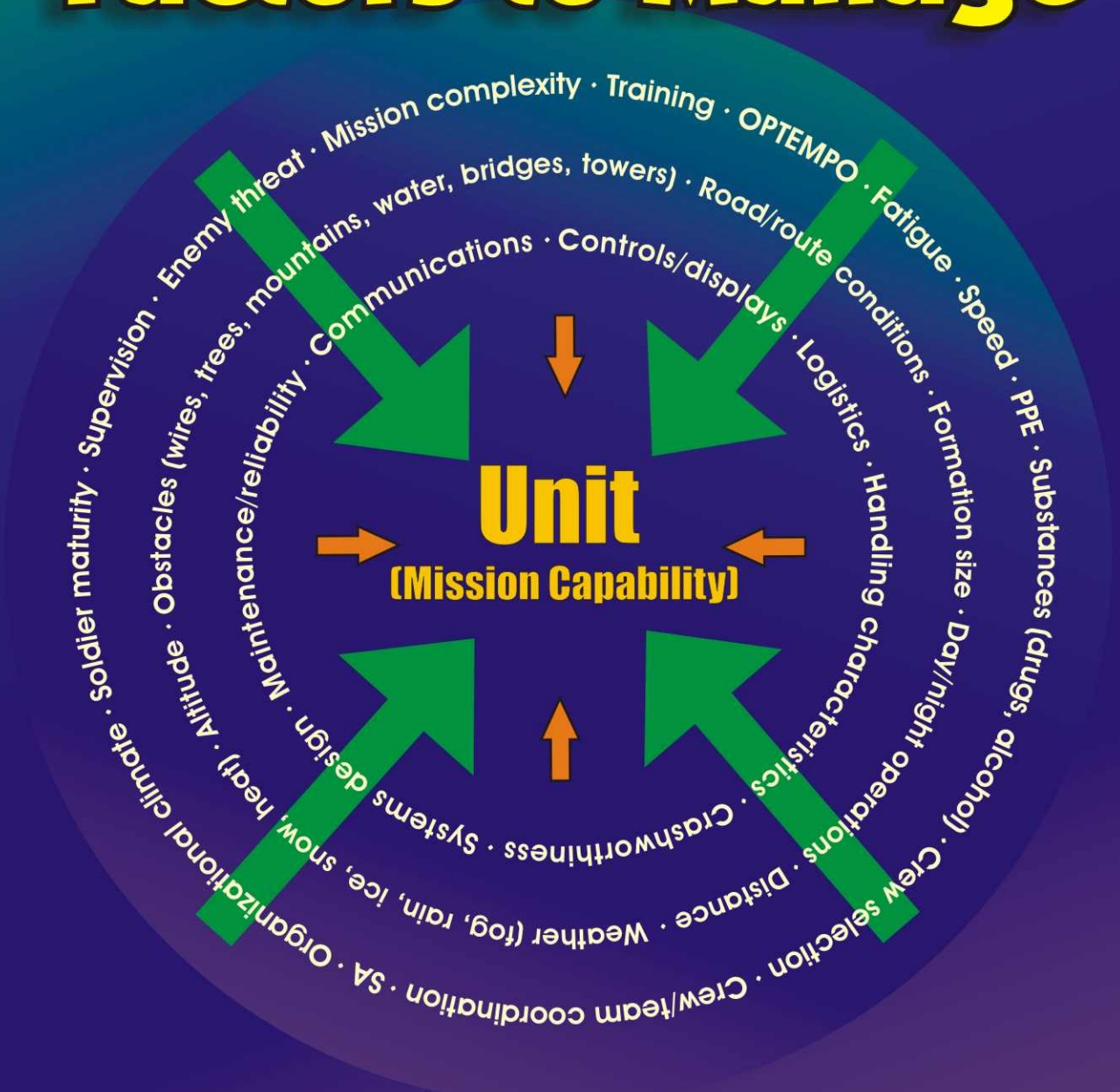
Culture NEW

- A loss is a loss
  - — Tactical (threat-based), accidental (hazard-based), or even medical, suicide, homicide
  - — Terrorist or To Do list: Focus on what can kill you
- Can vs. Can't (can perform aggressively)
  - — Holistic analysis of hazards & dangers
  - — Controls to reduce or eliminate these
  - — Manage resources, enhance readiness (not just "be safe"); produces confident, bold actions
- Everyone matters, all the time



"What's going to kill me & my buddies?"

Factors to Manage


Enemy threat · Mission complexity · Training · OPTEMPO · Fatigue · Speed · PPE · Substances (drugs, alcohol) · Crew selection · Crew/team coordination · SA · Organizational climate · Soldier maturity · Supervision · Obstacles (wires, trees, mountains, water, bridges, towers) · Road/route conditions · Formation size · Day/night operations · Distance · Weather (fog, rain, ice, snow, heat) · Altitude · Maintenance/reliability · Communications · Controls/displays · Logistics · Handling characteristics · Crashworthiness · Systems design
Unit
(Mission Capability)

Obstacles To Transforming

- The safety tradition (compliance mentality, i.e., I have inspections & checklists to do, as opposed to I have risks I need to ID & control)
- Emphasis on things outside of one's control: a threat-based propensity
- Discounting factors supposedly within one's control
  - They are familiar, plus I steer my own fate
  - Human error happens occasionally, & when it does, it happens to others, not me

Obstacles To Transforming

- Lean, mean, risk-taking machines
- Focus is on the main operation & ignore elsewhere
  - — Periphery is less sexy so I ignore it
  - — No one has the right to tell me how to live my life
- We don't understand cultural change
  - — It's an attitude & motivation thing
  - — Need buy-in & commitment: WIIFM?
  - — Takes time & consistent messages

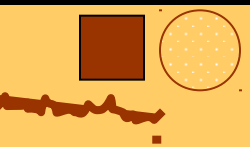
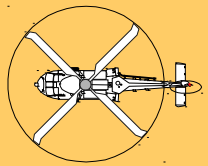
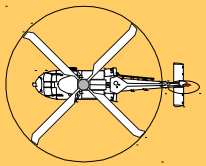
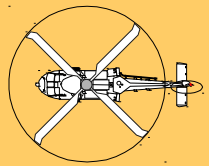
Transformed Thinking

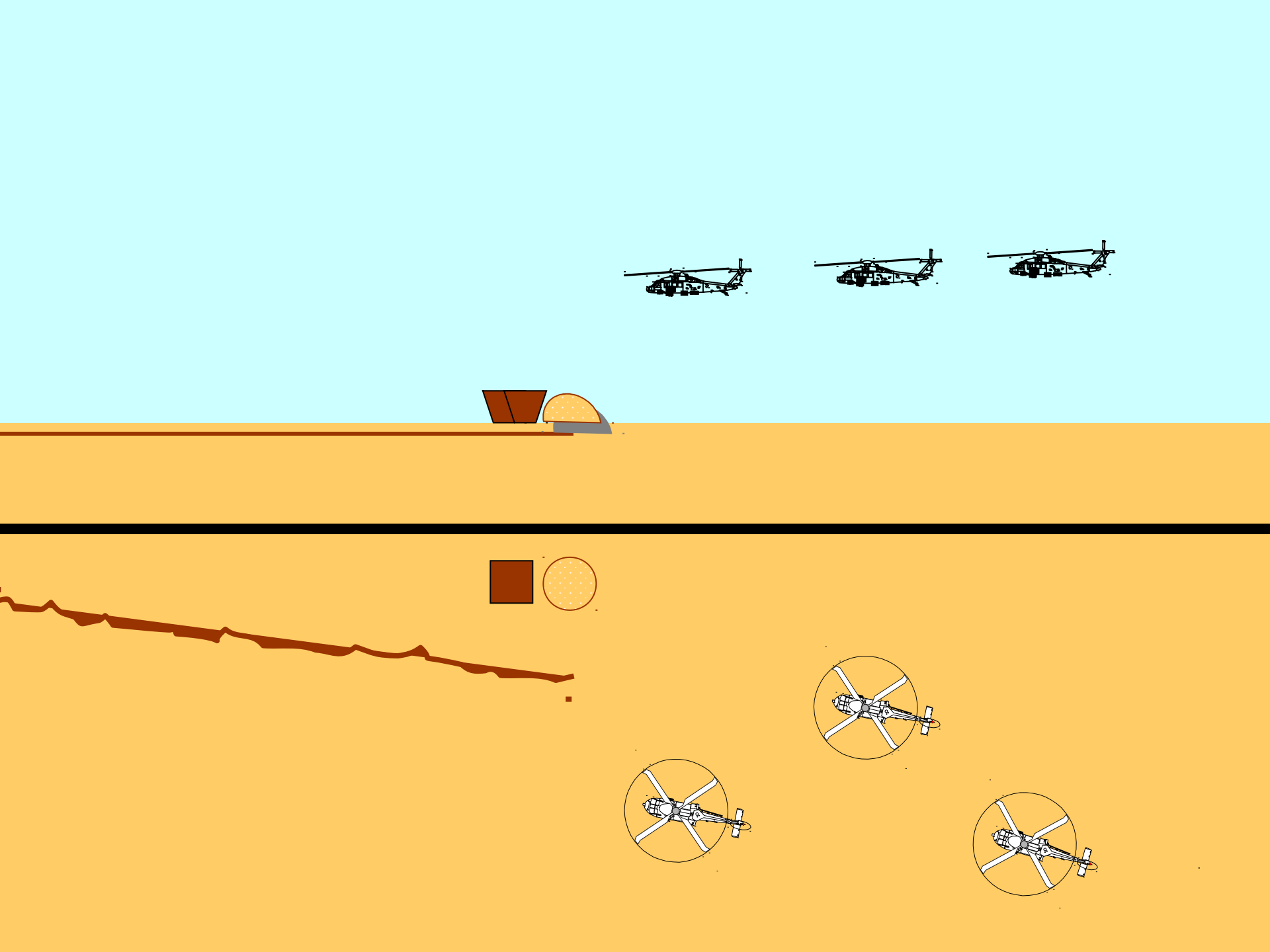
- Human error is real, is powerful, & no one is immune
  - — We all make mistakes
  - — Human error causes 9 out of 10 mishaps
  - — If you're OK right now, who else may not be?
- CAN still be a lean, mean, fighting machine
  - — Risk managed to project combat power forward
  - — Enables aggressive yet protected Soldier

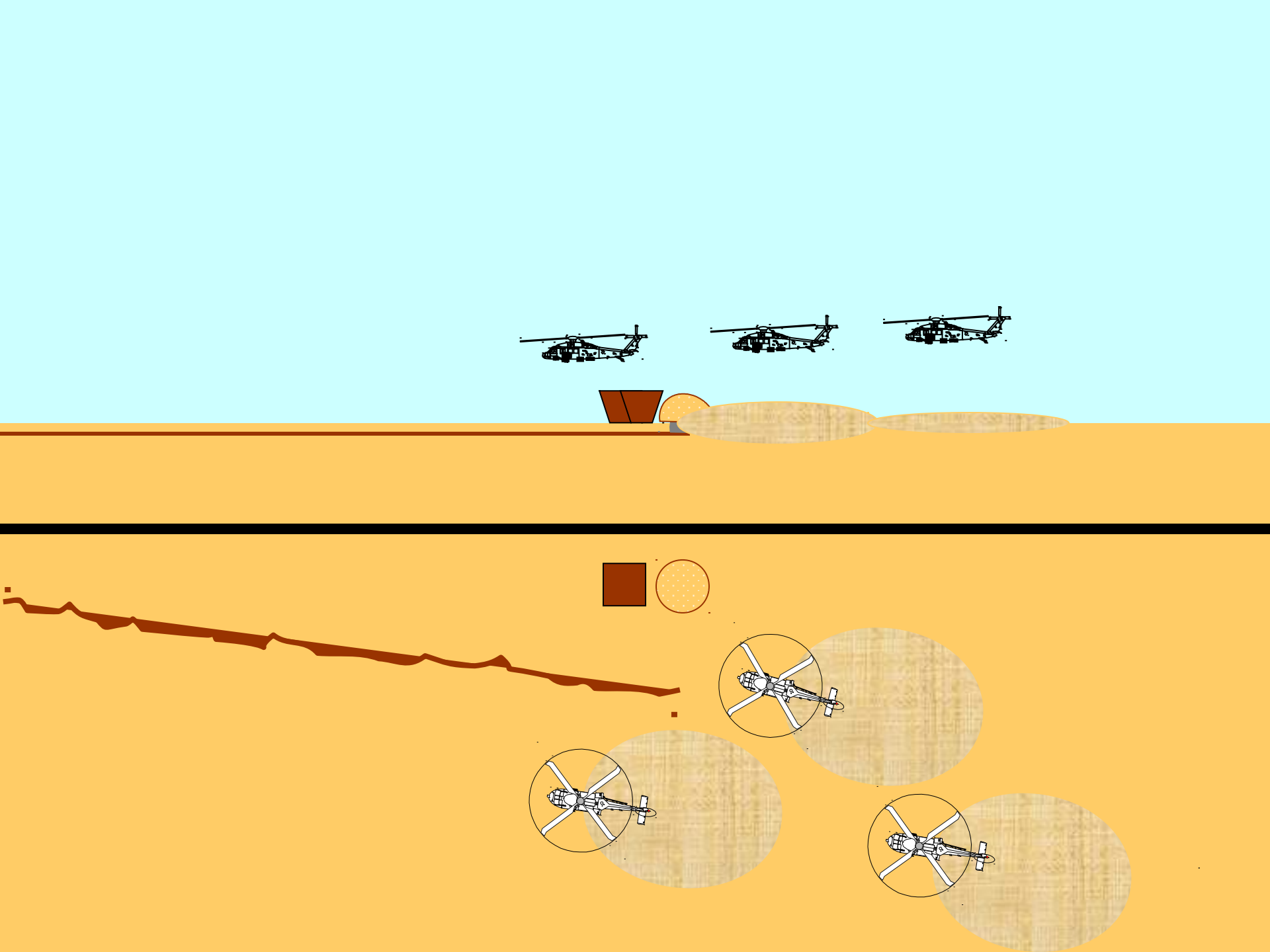
READINESS

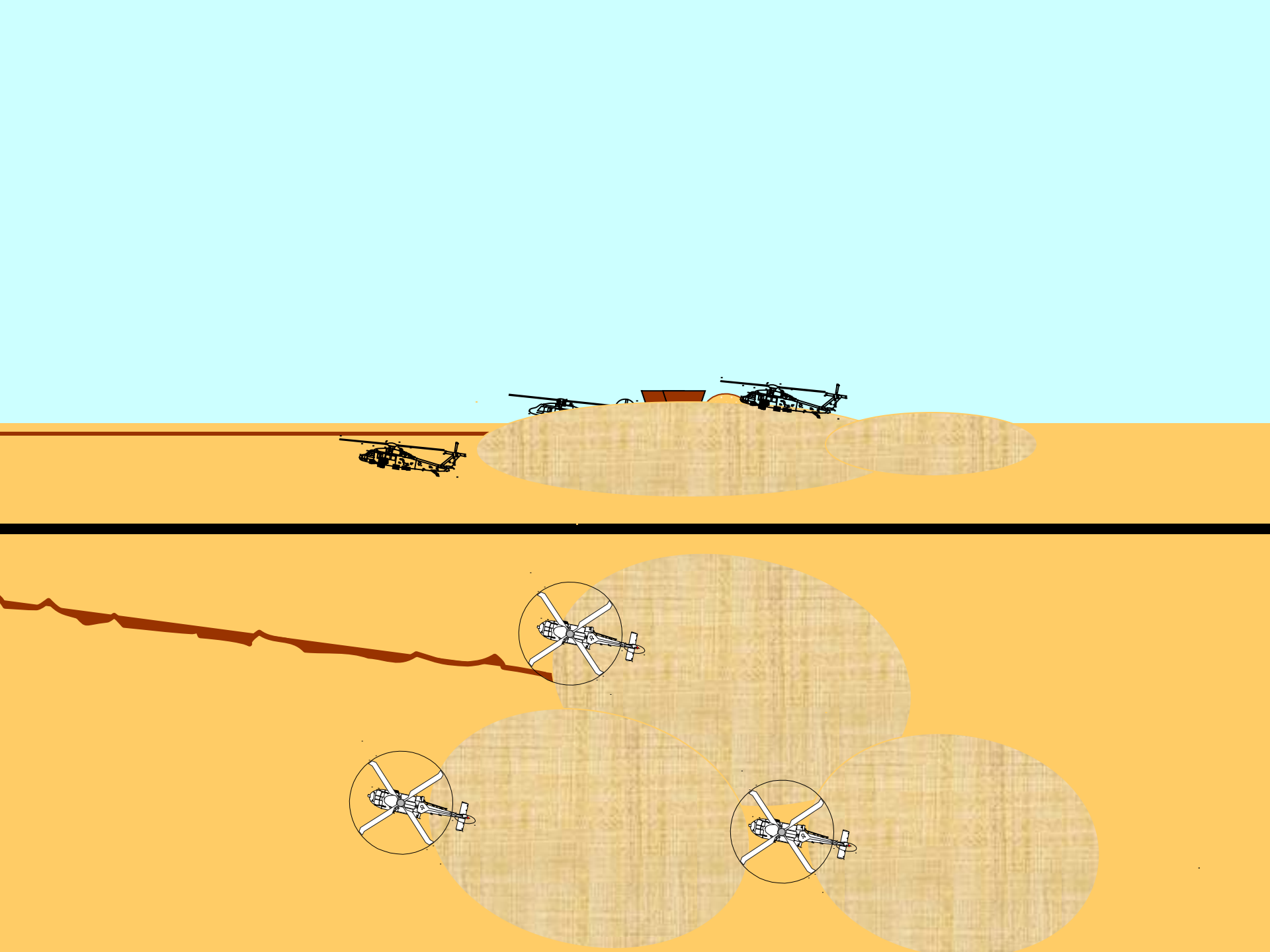
Transformed Approach

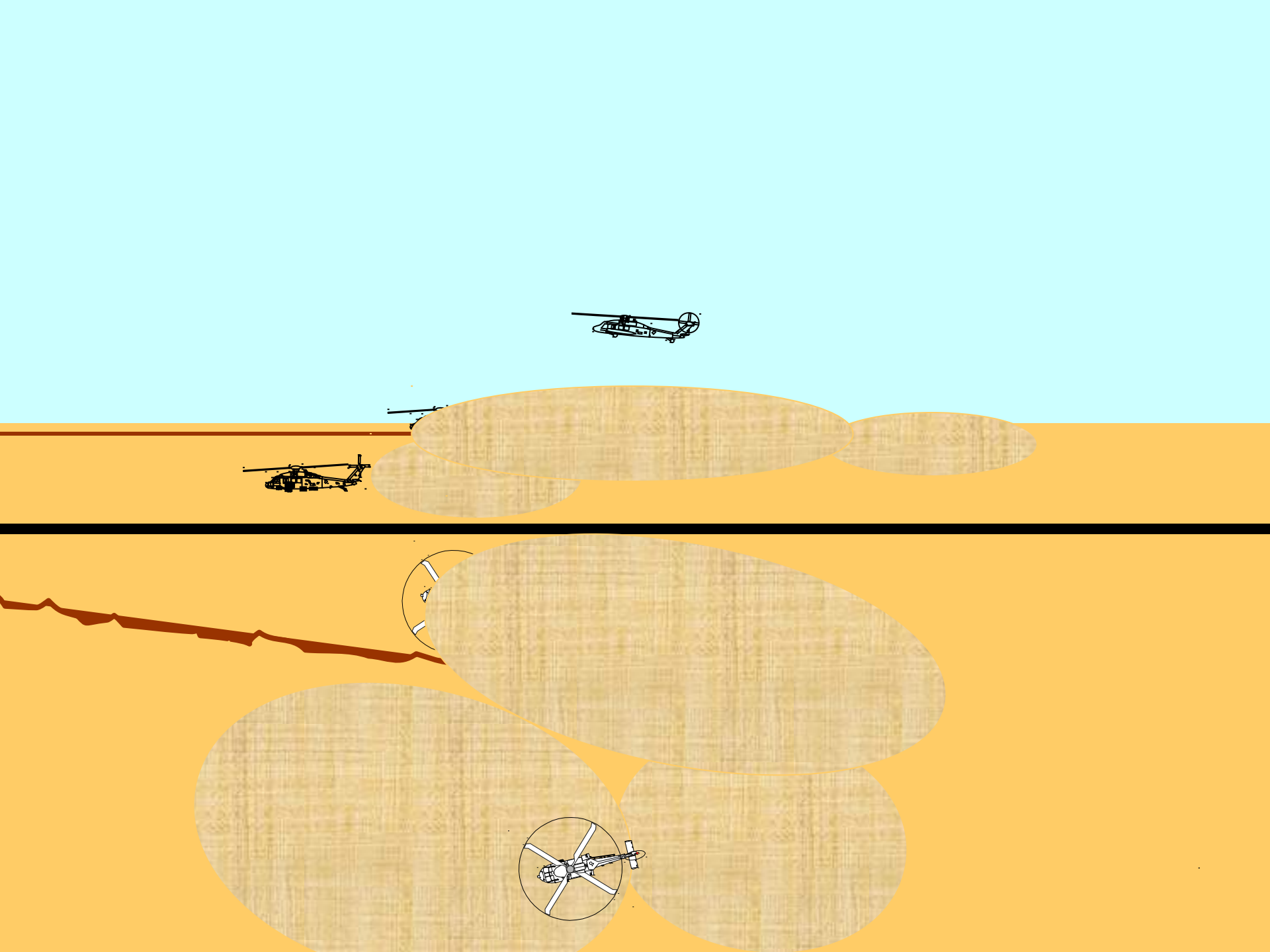
- Composite risk assessment means new perspectives on hazards
  - — Increased awareness to ID all the dangers
  - — Goes beyond METT-TC & formal MDMP
- Risk assessment is more comprehensive
  - — Sequences (before-during-after)
  - — Cumulative effects, interaction with time
  - — Trade-offs
  - — Synergy: 1 + 1 = 3

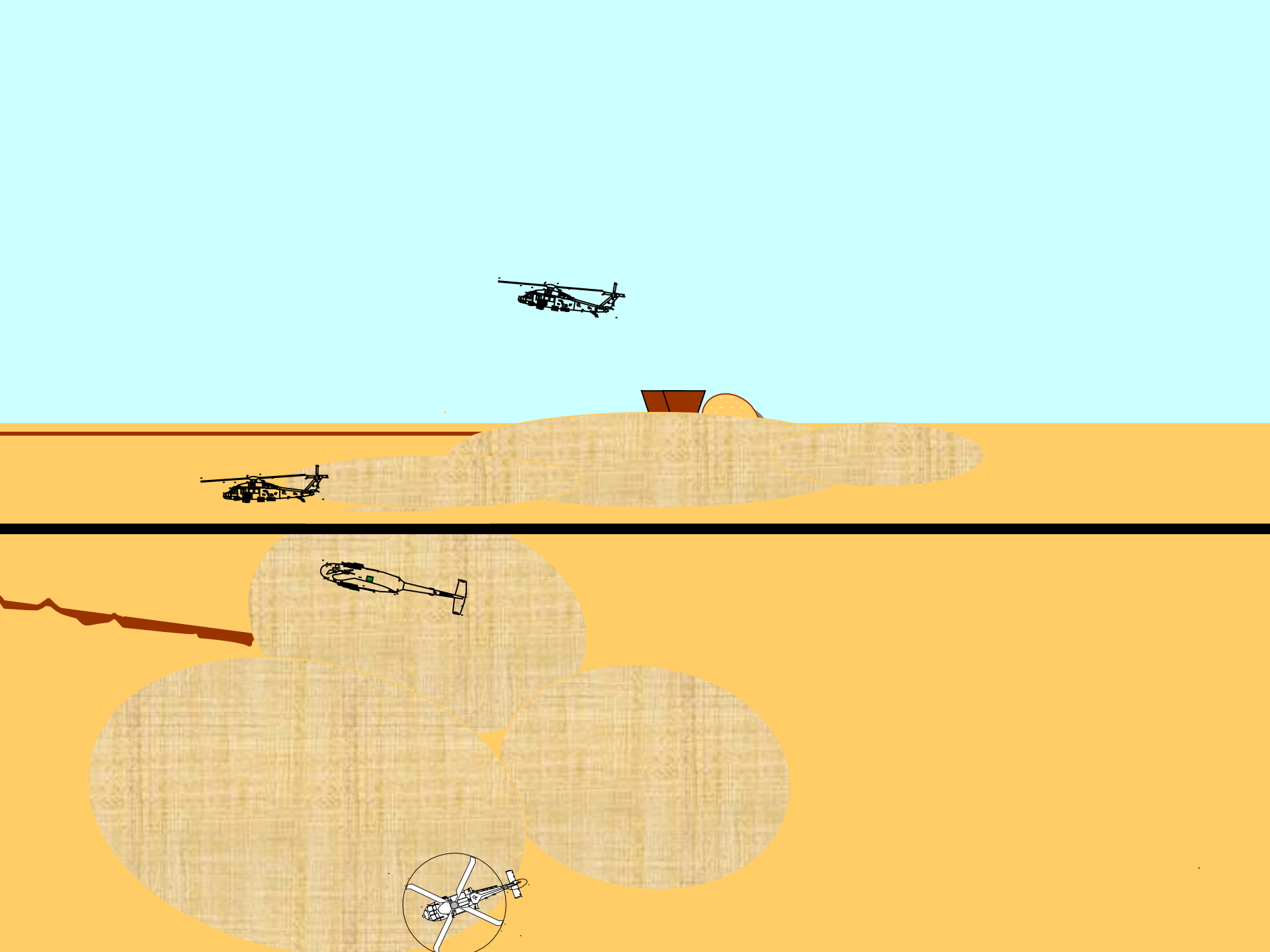















CRM5-18

Transformed Approach

- Composite risk management means managing assets 24/7
- Unit works together to keep readiness high
  - — Leaders manage preservation as part of power
  - — Followers understand & help, not hinder

Transformed Actions

- Hazard ID expands
  - — Ask "What can kill me or my buddies?"
  - — Ask "What can hurt me or my buddies?"
  - — Ask "Who can kill/hurt me or my buddies?"
  - — Consider more human error (refer to HFACS)
  - — Include acts of omission as well as commission
  - — Get Soldiers involved in hazard ID
  - — Look at the periphery, the before/after for the task, & off duty . . . 24/7
  - — Expand your sources of information: higher HQ, CALL, peers, safety experts, independent set of eyes, publications, website tools, grapevine

Hazard ID

- Hazards currently on the radar screen
  - — IEDs, RPGs
  - — High center of gravity, models of a system
  - — Dust, fog, night, wires, inadequate road surfaces (interact with vehicle weight & width, or rain)
  - — "Human hazards": inexperience, indiscipline, immaturity, carelessness, complacency, overconfidence, inattention, speed, fatigue, negative habit transfer, alcohol, poor planning,poor leadership, poor supervision, standards or procedures not enforced, hands off attitude, making inaccurate assumptions, OPTEMPO, organizational climate, individual personality

Factors Impacting Performance

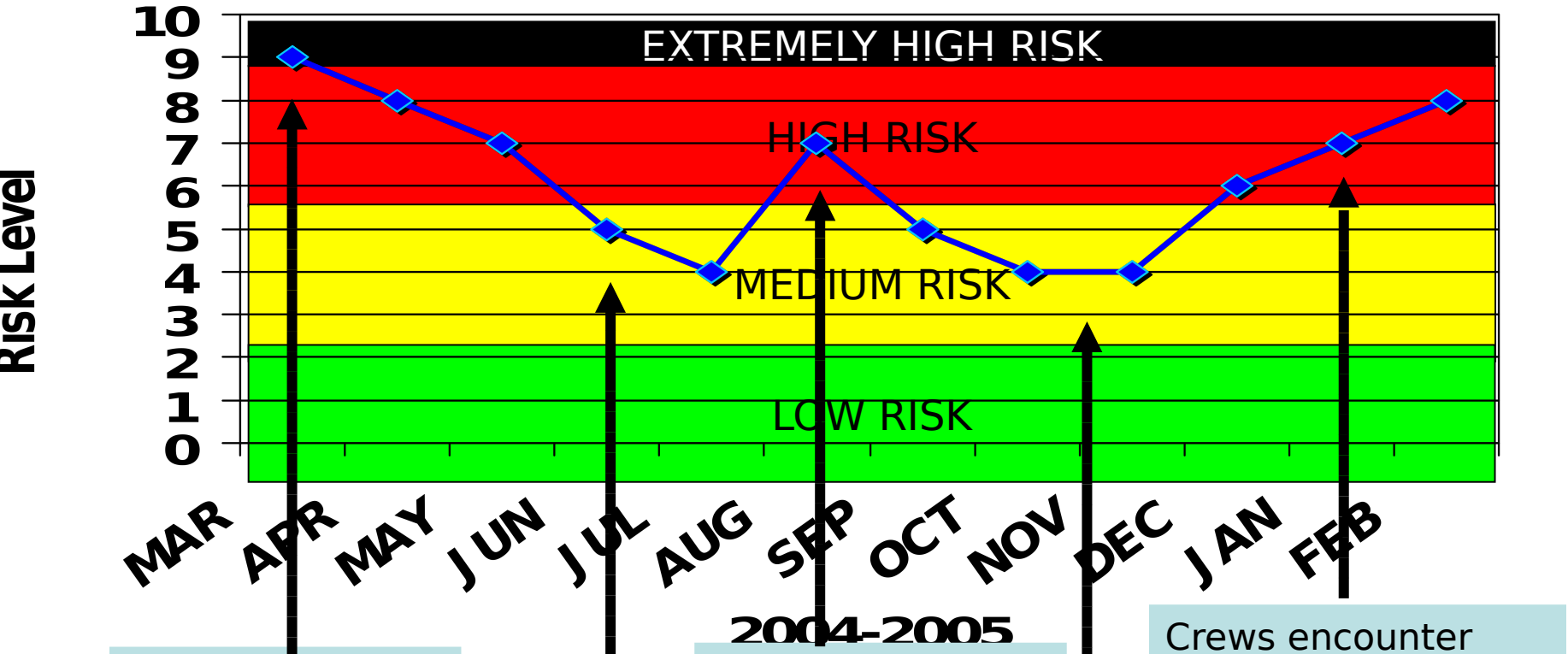
$$P = (A+S+K)*ME$$

Transformed Actions

- Risk assessment (probability x severity) expands
  - — Statistics & stories give a REALITY check
  - — Personal experience provides judgment
  - — Realize that things under one's control are perceived as less probable & less severe
  - — Consider interactions: cumulative effects, time effects, sequencing, synergy
  - — A worksheet is only a tool, not a set solution
  - — Do assessments HOLISTICALLY (not segmented)
  - — Assess risks even when there's no worksheet

RISK MITIGATION

The Life Cycle of a Deployment to OIF



Little understanding of the enemy ar other hazards

Familiar with AO and Enemy Situation. Skills improve.

Environmental Conditions (FAT >120°F) affect aircraft performance.

Crews learn and conditions

Crews encounter fatigue, complacency, and the "light at the end of the tunnel."

The Score:

- **Gravity: 1 AH-64D Destroyed; 2 OH-58D Destroyed (2 Fatals)**
- **Wires: 1 AH-64D Damaged, 1 x OH58 Destroyed (2 Fatals)**
- **Birds: Multiple Aircraft Damaged**
- **Kites / Antennae: Multiple Near Misses**
- **Other Helicopters: Multiple Near Misses**
- **UAVs: 1 OH-58D Damaged**
- **Environment: 2 OH-58D Destroyed**
- **Small Arms: 1 OH-58D Destroyed**
- **RPG: 1 OH-58D Destroyed**
- **MANPADs: 1 AH-64D Destroyed (2 KIAs)**

Transformed Actions

- Controls & implementation: DOTMLPF and HFACS
  - — O: Mitigate OPTEMPO & HOOAH climate; use participation for hazard ID & controls
  - — T: Train for knowledge & skill deficiencies, especially in crew/team coordination, decision making, weapons clearing, driving
  - — L: Engaged, involved supervision with focus on readiness; intrusive leadership for off duty
  - — P: People have accidents; know your people & manage them accordingly

The 18-24 Year Old Male Brain

Transformed Actions

- Supervise
  - — Plan being executed? Unfolding as planned?
  - — What am I learning right now that sheds light on composite risk, readiness, & mission accomplishment?

RISK MITIGATION

The Pilot in Command Manages Risk During the Flight

<u>The Hazards</u>:

- **Gravity***
- **Wires***
- **Birds**
- **Kites / Antennae***
- **Other Helicopters***
- **UAVs**
- **Environment***
- **Small Arms**
- **RPG**
- **MANPADs**

***always present**

<u>The Controls</u>:

- **Airspeed (High/Mid/Low)**
- **Altitude (High/Mid/Low)**
- **Flight Maneuvers (Aggressive/Moderate/Subtle)**
- **ASE**
- **Hazard Maps (Current Threat and Man Made Hazards)**
- **Communications**
- **Crew Coordination (Scanning/Navigation/Flight/etc.)**
- **Planning**
- **Professionalism**

Summary

- CRM has a bottom line, readiness thrust
- Consider assets 24/7
- Requires cultural change
  - — You're important to the unit
  - — Human error is real (HFACS describes much)
  - — Transcends regs & compliance orientation
- Holistic look at hazards & risk
  - — Threat & accidental
  - — Think about combinations
- Controls consider more O, T, L, & P

Back-ups

Belief the guidance is good
Appropriate & relevant for the individual
Explained why it should be done
Logical; employed facts correctly
Worker sees benefit>cost
(WIIFM?)
Self-efficacy
Small steps
"How to" training
Simplicity
Respect for leaders
Credible
Sincere
Helpful
Role Model
Respect for the worker
Allow them some control over their actions; trust based on past acts
Listen & understand
Provide what they need to succeed
Partnering in plans & decisions
Buy-in
+
Commitment
= Safe Behaviors
Motivate
Smart is good! Stupid is bad!
Do it for the team & loved ones
Reinforce correct acts
Perception
The big picture: staying alive & healthy=desirable quality of life
Heroes & desirable models impact how I view safe behavior
Being safe is MY idea
It CAN happen to me (experience from near misses, stories of others)
Accountability
Set expectations
Be involved; engage!
Follow up
Consequences (+/-)
Jaeger4-07